TEAMING UP WITH TECHNOLOGY:

How Unions Can Harness the Technology Revolution on Campus

REPORT OF THE TASK FORCE ON TECHNOLOGY IN HIGHER EDUCATION

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INTRODUCTION

Irwin Polishook, President, Professional Staff Congress (CUNY); AFT Vice President; Chair, AFT Higher Education Program and Policy Council

The pace of technological change on American campuses is so rapid that to study it is like aiming at a moving target. Nevertheless, technology is such an important, compelling force in higher education today that we who represent the interests of the academic community simply must come to grips with it.

In order to meet this responsibility, AFT's Progr am and Policy Council for Higher Education recently established a task force on technology in higher education. The task force met through the spring and summer and prepared the following report.

Chairing the task force was Mitch Vogel, president of the University Professionals of Illinois. The other members were Norman Swenson, AFT vice president and president of the Cook County College Teachers Union (Chicago); Larry Flood, United University Professions (SUNY); and Susan Levy, president, Washington Federation of Teachers. Serving in a resource capacity were Ray Schroeder and John Murphy, University Professionals of Illinois; and John Wenger, Cook County College Teachers Union. Staffing the task force were Perry Robinson and Larry Gold of AFT's higher education department. AFT staff member Martha Matzke also assisted.

As chair of the AFT Higher Education Program and Policy Council, I want to thank Mitch Vogel for heading this effort and to commend him and his colleagues for producing a document that is both thoughtful and practical. The first section of the report is instructive, reviewing the state of technological change in higher education and sorting out the issues. The second section is action-oriented, suggesting what we as local leaders can do to defend our members' rights and make sure that new technologies serve to *improve* education on our campuses, not simply *overhaul* it.

Among the 901,000 people represented by the American Federation of Teachers are more than 100,000 college faculty and academic professionals, along with another 17,000 paraprofessionals, nurses and government professionals involved in higher education. I hope our members, and others reading this report, find it helpful in sorting out the exciting prospects as well as the tough issues today's technology explosion raises.

PREFACE

Mitchell Vogel President, University Professionals of Illinois Chair, AFT Task Force on Technology in Higher Education

I lead a local that encompasses 8 institutions through out Illinois, a local that is under political attack and that must deal with dozens of complex problems every day. I know how it feels when someone tells me, "I know you're doing a, b, c, d and e, but I think you need to start devoting a *lot* of time to also do x, y and z." That kind of demand sometimes makes me angry, and *always* makes me feel that the "expert" has no idea how full my plate is.

So here I am heading a task force that asks you to devote a lot of time to a new responsibility. We're asking each of you to take a serious look at the direction in which technology is going at your institution. We're asking you to insist that you be part of decision-making about technology on campus, to negotiate contractual language related to technology, and to participate in policy debates about it.

Let me assure you, the members of the task force don't ask this lightly. We are asking you to do these things because technology already is changing the way we teach, changing the way we do research, changing basic employment rights. In short, because we've become convinced that over time the influence of technology in higher education will grow even more pervasive.

And although, as we will see, technology can be a powerful force to improve education, it is often adopted today *without* a clear educational focus and *without* sensible strategic planning. Unfortunately, it is not unusual for an expensive technology to be purchased primarily because it is promoted by a large company, or offered for free or at a discount, or because it is technically "leading edge" or because it is seen as a way to cut corners on faculty and facilities.

The key problem is the decision-making process itself. As long as the purchase and utilization of technology on campus is left primarily to management, bad decisions are sure to result. It is practitioners--people like our members--who best know their needs and the needs of their students and thee academy. As educators and as unionists, it is our responsibility to ensure that technology is used in a way that does not shortchange our students or ourselves.

It is already clear that management and governing boards have different priorities than those of faculty practitioners. In a study conducted by the Illinois Board of Higher Education and published on July 11, 1995, entitled *Information Technology and Academic Quality and Productivity*, faculty, students and administrators were asked to identify the highest priorities for the applications of new technologies. While the three segments of the academic community agreed on the importance of developing all the new technologies, this study and others revealed some significant disagreements.

Management and faculty both gave a high priority to technology for communications and financial transactions. (Everyone wants their paychecks on time.) However, while management also ranked as its highest priorities distance learning and internal transactions, such as record keeping, the faculty wanted to see a higher priority for library programs and the preparation of instructional materials. Thus, if we want new technologies on campus to reflect faculty priorities, we must become intimately engaged in the decisionmaking process.

This task force report is an attempt to offer help to you in meeting that challenge. I want to join Irwin Polishook in thanking my colleagues on the task force for their hard work and good ideas, as well as all those who lent support to our efforts. I'm proud that our union is playing a leading role in tackling this subject.

PART ONE

BACKGROUND: The Push for New Technologies on Campus

Technology already has revolutionized the way most colleges and universities perform administrative functions as varied as processing tuition payments, registering students for classes and tracking federal grants. But today, something much more important is afoot. Today, new technologies in *academic instruction* and *communication* are taking hold on many of America's campuses--technologies that may in time substantially change the way higher education carries out its basic mission.

Sources of the Push for Technology

One source of pressure for technology is coming from "below," from today's undergraduates. Many of them are already at home with computers. Between one-fourth to one-third of American families have computers, and more than half of fall 1994 freshmen had at least one-half year of computer science while in high school. At the same time, these numbers make clear that the computer revolution has *not* reached all students equally. There are great, and unjustifiable, inequalities in computer access and skills between rich and poor students.

But whether or not students bring computer skills with them to college, they know they will need them by the time they get out. Proficiency in accessing, retrieving and manipulating data will become as essential as literacy to hold a good job and function effectively in tomorrow's society. Students want opportunities to gain these skills incorporated into their college education, and they are right to want them.

Similarly, the business community--faced with the imperative of developing a technologically-proficient workforce--is pushing for a greater emphasis on technology in higher education. At the same time, commercial technology interests--hardware and software firms, on-line

communications concerns, even the phone company--work continually to build business in the collegiate world. They offer financial incentives to purchase their products; they promise greater efficiency and productivity on campus. Some even threaten implicitly to get into the higher education "business" themselves if colleges do not become partners in their vision of the information age.

The third source of pressure for technology is college administrators and state officials eager to reach new students and cut costs. The latest telecourse technologies, for example, offer the prospect of extending college access to students who are placebound because of disabilities or other reasons, students in remote areas who are not easily able to leave those locations, and students working full-time who would relish an opportunity to learn at home or at the job site. And along with the promise of access, technology offers the tantalizing prospect of higher instructional "yield"--fewer buildings, faculty teaching more students at one time, fewer faculty being needed altogether, on-line libraries at the students' fingertips. As we will see, many of the savings sought from technology are illusory and raise serious questions about educational quality, but the attraction of doing more for less is powerful.

Finally, pressure to adopt the latest technologies on campus comes from technology enthusiasts--some call them technology pioneers--among the faculty itself. Here are a few illustrative figures:

- According to one study, nearly one-third of faculty have made use of software in the classroom. The proportion who use technology for instruction *as a matter of course* is probably lower, between 5 to 10 percent.
- According to Claremont College's Kenneth Green, 11 percent of college classes now use commercial courseware, 4 percent use multimedia, 9 percent employ computer simulations and 13 percent use electronic mail.
- Just under half of the state colleges and universities responding to a national survey reported that they offer distance education courses. Ten percent offered full degree programs through distance education.

- One-third of the nation's faculty uses electronic mail, estimates Steven W. Gilbert, Director of the American Association for Higher Education's Technology Project.
- Almost all universities provide faculty free access to the Internet. According to one estimate, large state universities may average 15 million Internet transactions monthly. Even very small colleges generate more than a million electronic transactions each month.

What makes technology so attractive to these faculty are the genuine educational gains it offers--its potential to bring new worlds of information into the classroom, to foster individually paced learning, to ease communication among students and faculty, and to broaden the net of information available to researchers.

The Push for Technology-Assisted Instruction

New computer technologies constantly are being developed to support and strengthen college instruction. Sometimes the computer plays a clearly subordinate role to the instructor, such as a computer simulation of dissecting a frog in lab class. Sometimes the computer occupies center stage, as in a computer-based remediation or language program. Internet and electronic mail are being employed extensively to promote communication among faculty and students outside normal class time. Special software programs are becoming widespread in the sciences, mathematics and economics, less so in the humanities. Instructional experiments, such as one that replaces large lectures with studio classes in which pairs of students interact by computer with other students and instructors, are underway around the country.

By far the most prominent trend in instructional technology is the exploding number and variety of telecourses offered by colleges and universities, as well as private entrepreneurs and the Public Broadcasting Service, among others. Telecourses include the traditional prerecorded class, as well as "real-time" interactive video/audio that reaches remote sites through high-speed telephone wire, video conferencing and satellite

transmission (which, in turn, may include audio interaction through an 800 number or electronic mail). Whatever the form, the usual educational frontiers or boundaries--states and nations--are transcended by satellite broadcast over vast regions of the U.S. and by the design of international educational collaborations.

The spread of distance education is impressive. One key market is rural states where students are widely dispersed. Examples include North Dakota, West Virginia and Maine, as well as a Western Cooperative of nine states. Large community colleges located in densely settled metropolitan areas also are extending their telecourse operations to interactive video/audio and satellite transmission. Community colleges in Los Angeles, California and Portland, Oregon are examples.

There are also significant levels of activity in distance education at the university level. For example, the two largest state systems--the State University of New York (SUNY) and the California State University (CSU)-- each have obtained multi million-dollar budgets and developed elaborate plans to beef-up distance education, including plans to offer complete business administration programs to be offered at a distance. Other institutions active in offering full degree programs at a distance include New York University and Athabasca University in Alberta, Canada, a "campus" located entirely in cyberspace.

Commercial providers also are moving into the market for distance education. The most ambitious provider is Mind Extension University (ME/U). Jones Intercable, the country's seventh-largest cable operator, which owns ME/U, has invested \$50 million in the project. ME/U does business by making agreements with accredited colleges to grant credit for ME/U courses, or in some cases, entire degree programs. Among those participating are the Universities of Maryland, Delaware and Oklahoma, George Washington University, Washington State University and California State-Dominguez Hills. ME/U shares with the institution part of each student's tuition, which may be lower than the regular university rate.

As education by electronic means becomes increasingly transnational, Jones Intercable is planning to move into new markets such as Brazil, Thailand and the United Kingdom. Mind Extension University hopes eventually to have five "electronic campuses" transmitting classes

around the globe under the rubric of an "International University College" for which it plans to seek accreditation.

This new level of commercialism in higher education raises serious questions. How can colleges and universities maintain a coherent academic program and high standards if the "name of the game" is to sell individual courses that will be attractive to a mass market? And how does the nature of higher education change if commercial interests like ME/U and other industry giants are able to get independent accreditation for degree programs—in other words, if colleges and universities were to lose their exclusive franchise on certification?

Easy access, lower costs and slickness in pres entation could make commercial degree programs in cyberspace seem increasingly attractive to hard-pressed students and legislators. The type of learning that takes place in an academic community on campus, as well as the importance of intellectual independence and the advancement of research, might start to seem like luxuries to be restricted to fewer colleges and universities. While this may be an extreme scenario, defending the core values of independent higher education and control of the degree is likely to become a more pressing concern in coming years.

New Technologies in the Library

The acquisition of new information technology thus far has affected the library even more than the classroom--a result of escalating acquisition costs and the proliferation of books, journals and other information sources. Richard H. Ekman and Richard E. Quandt have described the changes:

In the last decade, a number of technological innovations have been adopted and exploited in various applications. The two princi pal ways

by which progress has occurred are the introduction of compact discs (CD) and the general availability of electronic networks, such as BITNET and Internet. Most recently, the National Research and Education Network (NREN) and National Information Infrastructure (NII), which would have very large transmission capabilities, have been conceived. These breakthroughs permit scholarly

information to be made available rapidly and in large, sometimes comprehensive,

volume, without the use of phys ical books...(including) information that is only bibliographical...versus full text.

Most higher education libraries today exist as both actual and "virtual" versions. The library as we have known it in the past is coextensive with an electronic, information-age double. In turn, librarians have had to shoulder a double burden: adapting to evolving technology while maintaining the traditional library with its collection of books and periodicals. Librarians must then assist students in using both versions, no small task in light of the variation in student knowledge of computers and on-line functions. At some institutions, reference desks increasingly are staffed by paraprofessionals, with librarians spending a substantial part of their workweek training them.

A central feature of today's library technology is the use of on-line operations. Some on-line systems now provide access to thousands of articles with search by subject, key words, etc. The full text of many journal articles since the mid-1960s can be made available on-line or sent by electronic mail to one's computer. This, however, raises an important question of access. While on-line services can be a boon for professionals paying \$10 or more for a journal, the cost is very problematic for students; free access to publications provided by the campus library is still a necessity.

PART TWO

CONCLUSIONS AND RECOMMENDATIONS

The Union Must Become Involved

First and foremost, the task force urges each AFT higher education local or chapter to become involved in a broad range of technology issues on campus. These include:

- Assessing the costs and benefits of major technology purchases;
- Providing access and training in new technologies;
- Maintaining educational quality;
- Controlling workload, compensation, jurisdiction and staff levels; and
- Protecting intellectual property rights in cyberspace.

Depending on the institution's decision-making practices, some issues will be settled at the bargaining table, while others might best be engaged at the faculty senate or council, at the departmental level, in joint labor-management committees or in consultation with management.

This report provides information and advice on handling the key issues, but the task force members recognize that what we report here is only a first step. Locals will need continuing assistance.

Therefore, the task force urges the national AFT office to supply affiliates periodically with updated information about policy and contractual developments related to higher education technology. As part of that effort, AFT should employ the Internet and other forms of electronic communications to disseminate information about technology and encourage information-sharing among affiliates. The task force also urges national AFT to work closely with other national organizations addressing technology issues, and to provide training for local union leaders to assume technology-related responsibilities.

Ensure an Open Process for Making Decisions about Technology

New technologies are too expensive, too important and changing too rapidly--and the issues surrounding technology are too complex--for institutions to rely on *ad hoc* decision-making in this area. Yet that is what is happening too frequently. The report of a review committee at Temple University conveys graphically what may be happening at many institutions:

Chronically underfunded, ambitious, and stretched thin, Temple nonetheless has planned for and spent money on technology over the last decade for administrative, research, and teaching purposes. Although administrative and research computing have benefited from universitywide planning, there has been no planning for the use of technology to improve teaching and learning. Thus, despite the dollars spent, faculty have experienced Temple's policy as what Steve Gilbert has characterized as "lurch, crisis, lurch, crisis." The result is a system that is out of whack.

This report came out of a formal roundtable to address technology issues at Temple. The American Association for Higher Education (AAHE) in Washington, D.C., is helping colleges and universities develop similar structures--which they call "teaching, learning, and technology roundtables"--to bring strategic planning to technology decisions. Roundtables on the AAHE model are one, but not the only, planning option for institutions.

To make sound decisions about technology, every college and university should have an open process for considering major technology issues and purchases. The task force urges higher education locals to push for such a process on their campuses, with the union playing a key role to protect member rights and to ensure that technology serves instruction and research, not vice versa. Whatever the process employed, management should release all planning data concerning technology to the union.

In order to be prepared for consultations and negotiations related to technology, the local union should develop an independent capacity to assess technology-related issues, including the costs and benefits of institutional technology purchases. One way to do this is to establish a formal union committee on technology that includes experts from among the membership.

Focus the Debate on Four Key Questions

The key to addressing technology issues is to ask the right questions. Figuring out what the right questions are, and then pressing a serious discussion of them, is what we do best as intellectual workers and what we can contribute most to the decision-making process on campus.

This is not to say that our questioning needs to be particularly complicated or arcane. To the contrary: Because technology so often presents itself in a complex, jargon-filled way, it is sometimes easy to forget that the overarching questions to ask about it boil down to common sense.

The task force believes that locals should keep four questions front and center in all dealings with management about technology issues.

- 1. Does the technology make sense educationally? Will it really advance student learning and scholarship?
- 2. Does the technology make sense financially? Is there a realistic cost/benefit analysis?
- 3. Will students and faculty all have access to the new technology and know how to use it?
- 4. Are the rights of the faculty and professional staff protected?

These are simple questions, but they are important ones having very complex ramifications that are not being adequately considered today. The union may, in fact, find itself the only party willing to inject these issues seriously into campus planning. The remainder of this report, then, is devoted to exploring these questions--with our detailed conclusions and recommendations concerning each one.

Question One: Does the Technology Make Sense Educationally?

This first point cannot be overemphasized. Higher education locals should always insist that decisions about using technology in instruction be based primarily on what enhances student learning. Better education, not cost cutting, has to be the first principle.

Quality and Distance Learning

At how many institutions is the academic community engaged in finding answers to questions like these: Is distance learning as good as inperson learning between faculty and students on campus? Even if it is not as good, is it good enough, i.e., good enough so that students taking distance courses should get regular college credits? Or should there be a different kind of credit awarded for distance courses? Should distance learning be only acceptable for a few courses or for an entire degree program? Is it acceptable for all kinds of students and subjects, or are there circumstances when distance learning is inappropriate?

Proponents contend that distance learning will allow colleges to expand access greatly *and* maintain or even improve quality. They argue that technology is essentially neutral: effective instruction is effective—whether in the classroom or presented at a distance—and ineffective instruction is not made worse or better by being in a classroom.

Opponents argue that e-mail and a television monitor can supplement on-campus interchange, but are no substitute for it. Just as television offers an *illusion* of intimacy between the viewer and the face on the screen, the skeptics argue, so distance education may offer an *illusion* of connection between students and faculty. What distance education *cannot* offer, they maintain, is the richness of personal connection that students need to achieve knowledge, direction and wisdom--the hallmarks of a quality higher education. And if good education is education that makes the student an active participant in his or her learning, how can the telecourse be the medium of choice?

Advocates of distance learning were heartened by a 1989 report from the U.S. Congressional Office of Technology Assessment which found that "in most instances, distance learning appears to be as effective as on-site, face-to-face instruction in the classroom." However, virtually all observers concede that research in this area has been far from rigorous and leaves unanswered many basic questions.

Again, the task force believes it is our responsibility as faculty and as unionists to keep educational quality at the center of the discussion about distance learning. In order to maintain acceptable levels of quality at our institutions, the task force recommends that locals engage management on the following five principles.

- First, the faculty must retain academic responsibility and control over instruction provided by the various modes of distance education. This includes the decision to award credit for distance courses generated at the institution or by transfer from other institutions. Just like any other course, no distance learning course or methodology should be offered or accepted for credit unless it has been reviewed and approved by the faculty through the customary procedures at that institution.
- Second, distance learning courses should be taught only by faculty appointed and evaluated through a traditional consultative process involving the faculty and the department.
- Third, if distance education courses are approved, they should always be structured to include substantial faculty-student and student-student interchange. Interactive video is clearly preferable to previously recorded telecourses, which not only fail to allow student interchange but also "freeze" the curriculum, making it static in time. Opportunities for on-site meetings with other students and a faculty member during the term are strongly recommended, especially meetings on the college campus. E-mail or an equivalent form of communication is a must. And interchange should not be the exclusive responsibility of either part-time faculty or graduate students; permanent, full-time faculty should be directly involved.

• Fourth, as a general rule, distance education should be undertaken when a campus-based alternative is impractical. This may be the case when a particular group of students is unable to reach the campus, or because the college cannot offer an equivalent course, or because the distance-based instruction is recognized by the faculty as being superior to what the institution can provide.

In short, interactive telecourses have their place for some types of courses and certain types of students, supplemented by e-mail and on-line research services to help students study and communicate. But the task force believes that a college education must include regular and frequent opportunities, formal and informal, for students to talk with faculty and one another about the content of their classes, their educational and career goals, and their research. All of our experience as educators tells us that teaching and learning in the shared human spaces of a campus are essential to the undergraduate experience and cannot be compromised too greatly without rendering the education unacceptable.

• Thus, fifth, the task force believes that only a limited number of credits should be awarded for distance education. The task force opposes undergraduate degree programs taught entirely at a distance and views such programs as problematic at the graduate level also.

Research and Oversight of Distance Education

Two key concerns about quality and distance education transcend the campus level. First is the lack of sponsored research on when distance education works and when it doesn't. Second is the lack of oversight of institutional programs in this area.

The task force strongly recommends that federal and private sources initiate efforts to support well-designed, independent research studies on instructional technologies. The task force urges the AFT to press for this at the national level. As we noted earlier, the research on distance education is not very rigorous or complete, certainly compared to the sums being spent on distance technology. The task force agrees with Michael Moore, director of the American Center for the Study

of Distance Education at Pennsylvania State University and an international authority on the subject, who writes:

The implications of [distance education]...warrant investment of money, time, and human resources in a thorough, integrated national research program. This program should not only evaluate existing projects, but should institute...rigorous research designed to measure the fundamental dynamics of learning and teaching by telecommuni-cations and its most effective organization, as well as the procedures and policies regarding the development of such education.

Second, the task force recommends that institutional accrediting agencies begin to set clearer and higher standards for distance education at the institutions they accredit. These standards should include faculty control over the curriculum, maximum interchange between faculty and students, and appropriate limits on coursework. Until now, the accreditors have been far too permissive, allowing relatively uncontrolled growth of programs without appropriate faculty involvement and quality controls.

Quality and Other Instructional Technologies

As noted earlier, distance learning is only one--albeit the most problematic--of the ways computer technology is being employed in college instruction. Look around many campuses today and you are likely to find computer drawings in the mathematics class, computer facsimiles in the art class, computer programs in the language lab, computer-based remediation programs. Many faculty are finding these to be great assets, and the prospects for the future are exciting.

The local union will want its faculty to have access to, and training in, technologies that can strengthen the learning process. The key is to ensure that faculty are the key players in deciding what instructional technologies are purchased and how they are used to enhance the academic program. Faculty are in the best position to decide whether a particular technology strengthens the academic program enough to be worth the cost. And faculty are the only ones in a position to ensure that

commercial computer programs in subjects like writing and language are employed to support, rather than just substitute for, good teaching.

Quality and Library Technologies

In an era of scarce financial resources, there will surely be continuing pressure to transform the actual *on-campus* library to a reduced, skeletal framework to support an electronically-based, on-line *virtual* library. Once again, the local union will need to ask the quality question: Is a shift from actual to virtual library services likely to enhance or diminish the quality of education? Obviously, the right balance will vary according to a college or university's size, educational program and financial resources, as well as the financial resources of the student body. However, three principles should be observed.

- 1. Librarians and faculty should drive the decision-making process about adopting new information technologies.
- 2. Although computer-based information services have many benefits, the value to the student of collaborating in a research facility with librarians, other students and faculty should be recognized.
- 3. Whatever technologies are adopted, minimal standards of quality require that students have ready and free access to books, periodicals and professional librarians.

Quality and Advisement

New technologies are making course selection, and hours long lines at registration time, a thing of the past. The administrative efficiencies and benefits for students are obvious. The key, again, is to ensure that the employment of these technologies does not take the place of direct face-to-face interchange between students, faculty and professonal counselors about the student's educational direction.

Question Two: Does the Technology Make Sense Financially?

Unless managers ask the right questions, and disabuse themselves of some pleasant illusions, they are liable to be caught up in what Stephen Ehrmann of the Annenberg/CPB Project calls the "rapture of technology."

One illusion that should be dispensed with is the idea that technology purchases mean greater instructional "productivity" in the foreseeable future. Technology has clearly brought increased productivity to some parts of higher education, particularly the administrative areas. But two national authorities on the subject--Steven Gilbert of the American Association for Higher Education and Claremont College's Kenneth Green-- write that it would be difficult to assert "even after a dozen years into the 'micro' revolution--(that) any real gains in instructional productivity" have occurred. This is because the amount of staff time--faculty, librarian, technical and classified--necessary to support a technology-driven learning process is not likely to decrease significantly if a basic level of instructional quality is maintained. Gilbert believes that learning technologies may result in productivity gains in the long run, but not now.

A second illusion is the notion that the cost of technology is its purchase price. This is difficult to combat, partly because technology salespeople never talk about obsolescence and long-term costs. But the cost is surely there.

For example, Kenneth Green observes that "technological obsolescence is a structural component of technology-driven change" and that the useful life of a new technology is typically 24 to 30 months. Industry has found that technology systems have operational and maintenance costs that often exceed their purchase price *annually*. These costs include software, hardware upgrades, upgrades in electrical and communications systems, security and replacement costs, and construction and operation of dedicated spaces for studios, switching centers, control rooms and media storage. A key hidden expense is the cost of telephone lines for

computer equipment, especially computers that utilize the Internet, as well as some forms of distance learning. Operational and maintenance staff to support technology purchases is another major cost factor. Again, industry has found that the ratio of operational staff to technology users in the organization should be as low as 1:10. Staffing in higher education has not approached this level--burnout and resignation among technical support staff is reportedly a growing problem on campus--but support staff expenses are on the rise and must be considered in assessing technology costs.

Despite these cost considerations, Green found that many colleges and universities purchase computers on an *ad hoc* basis, frequently using year-end money. His research revealed that no more than one-fifth of American higher education institutions had an amortization plan for their computer purchases. About one-half simply acquire computers on a one-time budget allocation.

Therefore, the task force urges each local to press management hard to consider fully the short-term and long-term costs and benefits of proposed technologies. As noted earlier, the local will gain credibility in this regard if it develops an independent capability to analyze technologies. The task force also urges AFT to develop a questionnaire about the long-term potential financial and other costs that locals can use in dealing with management on this subject.

Question Three: Do Students and Faculty All Have Access To and Training In the New Technology?

All higher education institutions, and all members of the academic community at these institutions, should have access to the new information technology and an opportunity to be trained in its use.

The task force is concerned about three types of inequality. First is the inequality caused when state legislatures provide substantial support to certain large universities while neglecting other four-year and community colleges, thereby creating "information rich" and "information poor" campuses. Second is the inequality noted earlier between affluent and disadvantaged students in terms of computer ownership and literacy. Third is a pattern of uneven resource distribution at the institutional level, under which certain disciplines and a core of what are called "early adopters" take the lead in obtaining equipment and training—and maintain that lead at the expense of others.

Correcting these inequalities may not be fully achievable for financial reasons, but it is a goal that needs to be pursued actively. Public officials should be asked to re-examine the distribution of technology funds to ensure that all institutions can:

- Establish computer centers and provide training to students who have not previously been trained to use microcomputers;
- Provide Internet and local area network access, with electronic mail, to students, faculty, staff, and administrators;
- · Connect their libraries with the principal on-line services such as the On-line Computer Library Center (OCLC), University Microfilms, the Colorado Association of Research Libraries (CARL), and others;
- Base their institutional software on open systems and cross-platform applications; and
- If possible, design programs to help students purchase or lease computers.

Faculty have different styles and methods of teaching and performing research. Consequently, faculty must have the freedom to use--or not to use--new technologies purchased by the institution. However, the task force believes that faculty should be strongly encouraged to engage the new technology. Public officials and college administrators should give a much higher priority to training programs.

Faculty training should be encouraged because our students will live and work in a world permeated by information technology, and we as educators have an obligation to prepare them to succeed in that world. Training should also be encouraged on pedagogical grounds. Research indicates that most students learn best when they are not just passively receiving information in the classroom but are doing something active and independent. Today's faculty, the saying goes, should aim to be "not just the sage on the stage but also the guide on the side." Training in new technologies can greatly benefit faculty who want to improve their instructional style along these lines.

Question Four: Are Faculty and Staff Rights Protected?

The task force urges higher education locals to become actively engaged in all the employment issues related to technology on campus. As noted earlier, the right forum for resolving technology questions might be collective bargaining, the faculty senate, the department or consultation with management.

In a companion publication to this report, which will be updated periodically, AFT has reproduced key sections of collective bargaining agreements around the country dealing with technology questions, which illustrate the importance of including technology in the union's negotiation strategy. Clearly, each institution will have to find its own answers to technology questions, but a number of principles suggested by our earlier findings should help guide the union's position.

Unit Work: The union should always be concerned about the unit's instructional jurisdiction. As a general rule, courses traditionally taught by members of the bargaining unit, or courses they are capable of teaching, should not be awarded to other institutions for transmission into the campus by electronic means. That would be simply the electronic version of subcontracting. Discussions with other institutions and faculty organizations may be necessary when distance courses are developed and transmitted by two or more institutions in tandem.

Staffing Levels: The union should pursue a policy of no layoffs and resist attempts to reduce staffing levels as a result of adopting new technologies. As noted earlier, the evidence thus far is that good education

in a high-tech setting requires no less faculty and staff time than does more traditional education. Thus, it is important on educational as well as job protection grounds to oppose job reductions.

Distance Learning Instructors: Too often, distance education has been developed on the margin of the usual curricular channels, on an

experimental, *ad hoc* basis by selected volunteer or part-time faculty. This needs to be reversed. **Faculty control over course content,** assignment of faculty and credits awarded should be maintained or negotiated. Locals should also attempt to reach agreement with management over issues such as the following:

- Class size limitations for distance learning courses;
- Workload credit adjustments for faculty engaged in distance learning, including adjustments for course preparation time, instruction time, office hours, e-mail communication and travel to remote sites;
- Control over examination and grading responsibilities;
- Special pay arrangements for telecourses.

Access and Training: As was suggested earlier, the union's negotiating strategy should include faculty and staff access to technology, which could include allowances for technology purchases by faculty. Agreements may also include faculty and staff training in new technologies, as well as protections for faculty who do not choose to employ new technologies in their teaching.

Privacy: The union should protect the **privacy rights** of faculty and staff with regard to computer files, data, discs, and electronic mail. Access to the local area networks, or LANs, used by faculty and maintained by the institution, should be limited to those employees responsible for the maintenance of such systems. Information derived from such access should be treated as private and confidential. Breaches of privacy, such as administrative monitoring of electronic mail, may violate the Constitutional rights of freedom of speech, unreasonable search and seizure and protection against self-incrimination.

Health and Safety: The union should be actively involved in health and safety issues concerning the use of new technologies by faculty and staff. One approach is to negotiate the formation of a joint labor-management committee to address these issues: a committee which assures strong union/worker participation in the concept, design, purchase and implementation of new technology. Training and education programs should be incorporated into this process. Particular attention should be

given to problems related to video display terminals (VDT's), which are associated

with a variety of visual, repetitive motion and musculo-skeletal problems; VDT's are of special concern to pregnant and disabled employees. Ergonomic and medical monitoring may be needed to document problems related to new equipment and to develop preventive health and safety programs.

The Special Case of Intellectual Property

Some of the most complicated issues involving faculty and technology concern intellectual property rights. Copyright law is based on the principle that people who create original work are entitled to control who uses their work and to secure compensation for it. But how can this principle be applied in an era where works in their entirety, or significant portions of these works, can be circulated and recirculated within moments to thousands of consumers on local area networks, bulletin boards, listservs and the World Wide Web? Who is responsible for monitoring such activity? How do we balance the rights of creators with the scholar's need for the widest possible access to information?

These issues are further complicated by the fact that technology has greatly extended the range of copyrightable materials. Video and audiotapes, computer programs, databases, and live video and audio broadcasts are "original works of authorship fixed in a tangible medium of expression" and thus can be protected by copyright from the time of creation until 50 years after the creator's death. Materials of this nature may involve several faculty and staff, with continuing reliance on the institution's equipment and facilities, in addition to external sponsors, including other colleges or universities. Determining who "owns" copyrightable materials, then, can be a real question.

Producer and User Rights: Intellectual property rights are of importance to the higher education union because its members are both the producers *and* the consumers of copyrighted academic work. Henry Perrit, Jr., an observer of today's copyright scene, emphasizes the importance of protecting the rights of creators.

Law and technology must work together to minimize free riding

on the intellectual contributions of authors and publishers....Copyright always has depended upon technological bottlenecks for its enforceability. The printing press was the original enforcement bottleneck ... As technologies change, old bottlenecks disappear and enforceability requires a search for new bottlenecks.... The problem with...an open architecture Internet is that there is no bottleneck.

At the same time, faculty, librarians and students typically expropriate small portions of copyrighted works in their own scholarship. The so-called fair use doctrine, long established in copyright law, permits limited copying of copyrightable works for educational purposes.

The task force strongly believes that the principle of fair use is well worth preserving and should be extended to the new electronic environment. The federal government's National Information Infrastructure (NII) Advisory Council has endorsed the principle of fair use, and policymakers in both the executive branch and Congress are now trying to find workable ways to implement fair use in cyberspace.

Ownership of Copyrightable Materials: Who owns materials produced by college faculty--the institution or the scholar? Over the years, academic practice has been for the scholar to retain ownership despite a general legal rule that patentable or copyrightable materials developed by an employee of an organization--as "work for hire"--belongs to the employer, not the employee.

The faculty exception to the "work for hire" rule may be less secure today than in the past. One reason is that the courts have not ruled on this point since passage of a new copyright law in 1976. A second reason is that the institution may play a more direct role in producing collaborative works, such as telecourses, than it does in more traditional scholarly material.

The task force urges higher education unions to try to reach clear understandings with management about ownership of copyrightable materials. Except when the institution has assigned and supervised the work and provided specific resources to support it, the creator(s) of copyrightable materials, not the institution, should have the legal protection and financial benefit for their labors.

To the extent negotiable, this should include a right to decide if and when telecourses will be re-broadcast, as well as compensation for such rebroadcasts.

Allowing the institution to own its faculty's work could have very adverse effects. Obviously, it would reduce the economic incentives for professors to create, thereby inhibiting the advance of scholarship. It could also seriously compromise academic freedom, for if the university is the owner, it can decide whether to publish or to proceed further with research, and whether to seek copyright.

Rewarding Technology-Related Creative Effort: In the new electronic environment, faculty's creative labors may range from developing telecourses and CD-ROMs to establishing new communications systems for scholarly purposes. However, on most campuses today, academic output of this nature is not well rewarded in the tenure, promotion or merit personnel processes.

The task force recommends that higher education unions push for greater recognition of technology-related creative effort in tenure, promotion and other faculty reward processes. These should be advocated with management and the faculty senate, and the union should work with its own members to broaden traditional ideas of what is valued for advancement.

Responsibility for Network Activity: Is the institution responsible for the use of materials and the expression of ideas on its communications networks? Because the institution maintains the campus' local area computer network, the institution could be considered the owner and therefore legally responsible for materials use on the network. Should this give colleges and universities the right to control activity, including the prevention of copyright infringement? Or is the individual user--the student or faculty member-- responsible? Is an online service responsible for its subscribers' actions? Or is the answer, all three--individuals, institutions and services? Clearly, institutions and policymakers will be compelled to confront these questions, and faculty unions will have to weigh in to protect their members' interests.

A Word in Closing

This report is certainly not the last word about technology, but the task force hopes it is a helpful first word. Our message can be simply stated. We're asking you to work hard to ensure that technology questions on your campus get the full and open consideration they deserve. Make sure the union is part of the process of considering technologies and that you are prepared to handle that task. Keep asking the right questions because no one else may be asking them--questions about the educational value of new technologies, about long-term costs, about access and training, and about protecting faculty rights.

At the insistence of the academic community, an excellent illustration of good questioning was incorporated into 1994 regulations of the Board of Governors of California's Community College system. The guidelines call for community college districts employing distance education to report on the following:

- What was the intent in offering courses by distance education, and how was learning enhanced by the use of technology?
- How were the faculty selected?
- In what ways was student achievement improved?
- How did student satisfaction compare with that in courses offered in a traditional mode?
- How did costs for distance education compare with other modes of education?

Good criteria. What is *not* so good is that we are told districts thus far have failed to satisfy the reporting requirements. *The union, in short, will have to take on the role of asking the key questions, asking them again, and then asking them some more, until it has opened up the decision-making process and gotten it beyond quick fixes and wishful thinking.*

Finally, the task force urges the union at all levels to become more skilled and creative in using technology to conduct union business and communicate with members. At the campus level, the union should fight to secure e-mail privileges for its communications. The union should use communications technology in its organizing efforts, ensuring that these technologies do not become tools of management to hamper such efforts. In addition, the national AFT office should strengthen its own capacity to communicate in cyberspace with affiliates. And, as noted earlier, the national AFT should provide continuing updates about technology issues, on paper and in cyberspace, and develop training programs to help local leaders employ technology effectively.

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Technology Issues: A Survey of Negotiations

An Appendix to the report of the AFT Higher Education Program and Policy Council's Task Force on Technology and Higher Education,

Teaming Up With Technology: How Unions Can Harness the Technology Revolution on Campus.

Higher Education Department American Federation of Teachers 555 New Jersey Ave. N.W. Washington, D.C. 20001

January 1996

Higher education collective bargaining in the United States on issues related to the new information technology is in its initial phase. Most references are to distance learning, intellectual property, the impact of technology on the bargaining unit's work, and joint committees to study the issues. Many contracts are silent on the issue of technology. Others have clauses pertaining to telecourse instruction, but no mention of two-way interactive modes of instruction (audio and video), even though that mode of distance learning is under way at the institution the contract covers. Most faculty unions have not negotiated for access to technology for bargaining unit members, whether it be computers, software, or networks. There is clearly a lot of collective bargaining territory that must be explored in the immediate future if bargaining unit members are to be properly represented. What we present here is a survey of some of the most notable results of negotiations on the relatively limited range of issues that appear in current contracts.

I. DISTANCE LEARNING

Comprehensive Language/Side Letters: Cook County Colleges Teachers Union (AFT), Alaska Community College Federation of Teachers, Association of Pennsylvania State College and University Faculty.

The most familiar form of distance learning assisted by technology in higher education has been the telecourse. One of the earliest and most complete contractual treatments of the subject was negotiated by the Cook County College Teachers Union in the early 1970s, replicated a few years later by the Alaska Community College Federation of Teachers. The agreement covers workload, compensation, re-use of the course, release for use outside the City Colleges, and the specific work of supporting TV instruction. **Appendix B.3 of the CCCTU agreement, "Compensation for TV College, Studio Teaching, and Supporting TV Instruction," appears at the end of this report.**

One of the most comprehensive treatments of distance learning in the era of the new information technology is found in two special Memoranda of Agreement letters negotiated recently by the Association of Pennsylvania State College and University Faculty (APSCUF) on two of the fourteen campuses in its bargaining unit--Bloomsburg University and Mansfield University. The Bloomsburg letter refers to "long distance education which involves teaching students by technological link-ups." Modes of instruction include "instruction utilizing satellites, fiber optics transmission, full-motion video, cable TV, microwave transmission, auditgraphics/computer, and videotapes." The purposes are to "enrich and to increase the availability of curriculum offerings" and to make clear that the use of "such technology will be voluntary and shall NOT be used to reduce, eliminate, or consolidate FACULTY positions within the SSHE"(State System of Higher Education). The agreement is unique in its granting control of eligibility to the department for distance learning credit courses to fulfill degree requirements in a major. There is no restriction on credit for non-degree students. And there are limits on the total amount of credits that can be earned.

- c. Full and/or part-time Bloomsburg University degree students may receive credit for telecourses to fulfill degree requirements in the general education or free elective area as long as they are approved by the department in which they are majoring. In no case will more than twelve (12) credits apply. For graduate students the number of credits will be determined by the academic department.
- A distance learning course "that does not have a comparable campus-based lecture course . . . must be approved through the curricular process and local Meet & Discuss."

The Mansfield letter concentrates more on compensation, requirements for "technical support," and evaluation.

- B. TECHNICAL SUPPORT Administration will provide thorough technical support that includes pre-broadcast set-up and test and availability of immediate response to calls for emergency assistance when equipment fails.
- Administration will provide support as requested at each remote site for proctoring, technical assistance or other assistance as mutually agreeable to the Provost and the professor.
- Courses originating on the institution's main campus and sent to other sites require that the instructor receive regular compensation plus "\$50 for each additional site and \$100 per student at a remote site." The added compensation cannot exceed \$4,500. There is additional coverage of continuing education courses and courses taught only to students at remote sites (no on campus class).

Faculty Control, Protecting the Integrity of the Curriculum: Herkimer County Community College (AFT).

A recent Memorandum of Understanding negotiated by the AFT local at Herkimer County Community College in New York also covers more subjects than workload and remuneration. The agreement prohibits the *reception* at Herkimer County Community College of any distance learning course *transmitted* by another institution if such a course is "currently being taught and/or listed in the College catalog." This provision protecting the integrity of the college's curriculum and the instructional work of its faculty is the only one of its kind, as far as a review of the AFT Higher Education Department's contract collection has determined.

The transmission of distance learning instruction is defined as "live and interactive. No taped sessions will be delivered without the prior consent of the faculty member teaching the course." The memorandum also stipulates:

• The teaching responsibilities as it relates to papers, exams or assignments will be no different than what is currently expected in traditional college classrooms.

- Students who wish to confer with the HCCC teacher must meet with him/her on campus during usual office hours. If the HCCC teacher voluntarily travels to a receiving school, he or she will receive travel reimbursement per mile at the usual college rate.
- Participation by HCCC faculty in Distance Learning either as part of the regular teaching load, or as extra service will be voluntary. The decision by a faculty member not to participate will not be used in any evaluative manner.
- Class size (including students at all sites) shall not exceed 35 students during the first year.
- The teacher shall be paid for two contact hours at the extra service rate for his/her rank for the extra preparation time he or she teaches such a course. Extra prep time will be re-evaluated at mid-year and end-year to determine if an increase is warranted.

The issue of colleges receiving courses from other locations will probably become much more sensitive in the next few years as interpenetration of institutional student "markets" becomes more significant. In Illinois, for example, institutions--four-year, two-year, public and private-- are organized in consortia that develop distance learning courses that may be transmitted from one college to others. In some instances, such a course will replace a course that may have been taught on the receiving institution's campus in the usual, not virtual, classroom. If the transmitting and receiving is reciprocal and balanced in terms of quantity, then the exchange is rationalized and an individual bargaining unit's work is protected. Such a balance will have to be negotiated and monitored, however. It is not likely to materialize out of managerial concern for faculty workload--not when part-time faculty are available and large numbers are unorganizable due to eligibility restrictions imposed by Illinois law and related legal decisions.

Anticipating Future Developments, Developing Distance Courses: **Western Michigan University (AAUP)**

The familiar education jurisdictions--state and region, in state or out of state, two-year and four-year, public and private--will be affected by increased distance learning instruction that traverses state and regional, even international, borders. Mind Extension University (Jones Intercable) stands ready with its cohort of 30 four-year and two-year institutions to extend individual courses and degree programs into any region of the United States, most of it by tape and cable telecourses at present. But with the inevitable increase in technological agility of distance learning transmission, wired and wireless, students will find their distance learning choices increased by MEU and other providers. The contract at Western Michigan University anticipates such technological developments in its definition of "Televised or Electronically-Purveyed Instruction:"

• 30.1 Electronically-purveyed instruction is defined as a course in which instruction occurs by live television, by cable or direct signal, "coded transmission" by telephone lines, fiber optic lines, and/or exists on video tapes, film, laser disk in direct or interactive format.

The Western Michigan contract is quite detailed, consuming five pages. It establishes the instructor's responsibilities and compensation, specifying that initial course development "may be spread over a year" before the course is offered. It also establishes that instructors maintain control over the courses they develop. The instructor's responsibilities include:

- Participation in planning meetings with Media Services to adapt lesson plans to electronically-purveyed instruction; and to become familiar with the Office of Telecourse Programs to develop study guides, teaching aids, and other course materials;
- Selection of textbooks and support materials, and assistance in clearing copyrights; and
- Attendance at no more than three sessions on television presentational techniques.
- The course preparation fee is "\$2,000 plus fringes." It is paid to the instructor who prepares and teaches the course "or to the sponsoring department to provide reassigned time equal to the credit hours of the electronically-purveyed course." The "Presentation" is expected to be "live" and "in a television classroom with a regularly-scheduled class in attendance." The instructor is responsible for "acknowledging simultaneous presentation to off-campus students via television, and recognition of their presence in the 'audience' through planned involvement."
- The "presentation fee" for teaching the course includes the normal compensation for the on-campus course in addition to the "compensation equivalent to the percredit rate for (a) a continuing education overload course; and (b) a one-time payment of a \$200 production fee pro-rated for courses of less than three (3) hours of the instructor's time to meet with the media staff before and after each electronically-purveyed class session and for the added complexity of television teaching."
- The instructor who creates or teaches the course that is videotaped must be "given first consideration to administer the re-broadcast of this course" and be compensated in accordance with the arrangement described above, i.e., one-time payment of \$200 plus continuing education overload rate. If the instructor declines, the sponsoring department may "recruit another instructor with appropriate expertise to administer the course." However, the instructor who originated the course will still receive a "royalty of ten percent (10%) of the total

tuition received from all students based on the continuing education tuition rate, but not to include course fees." The original instructor may also judge the "continued use of an electronically-purveyed course to be detrimental to his/her professional reputation" and request the course be reviewed for "either substantial revision or removal from circulation." Videotapes become the property of the university for at least three years; after that if it chooses not to retain the tapes, they are "offered to the instructor who created them without charge."

Compensation and Workload Credit: Various Agreements

This area has received the broadest range of contract coverage. Some examples:

- 1. Compensation for the delivery of courses offered via technology shall be at the appropriate course load factor. Class size shall not exceed 150 percent of the official capacity when taught by the traditional format. (*Edmonds Community College Federation of Teachers.*)
- **2.** c. The loading formula for Telecourse Instructors will be as follows: one (1) lecture hour equivalency for each group of seventy (70) students. English Composition shall be loaded at one-half this ratio.
 - (1) Telecourse Instructors, who are assigned as part of their regular teaching load, will administer examinations, present review sessions, prepare prescriptive feedback and complete other duties in lieu of the office hour requirement as spelled out in Section 1 of this Article.
 - (2) Telecourse Instructors on overload assignment will be paid at the overload rate for each hour of participation in review sessions, the administration of examinations, and any other required duties which cannot be fulfilled during designated carrel hours. (*Coast Federation of Educators.*)
- **3.** An off-campus course or a course taught via radio or television shall be defined as any credit course normally offered as part of the college curriculum but which is taught at a location other than the college campus, or by radio or television. An off-campus course, or a radio or television course may be considered as part of the regular course load of the faculty member.

Should an off-campus course or a radio or television course fail to develop after assignment, as part of a regular schedule, the faculty member shall have three (3) regular semesters to teach an extra course or courses in order to make up the deficit. (Nassau Community College Federation of Teachers.)

- **4.** Faculty who agree to teach a telecourse may accept the telecourse assignment as an overload if their teaching load for the term in question exceeds fifteen (15) hours, or if their annual teaching load exceeds thirty (30) credit hours. However, the administration reserves the right to assign a telecourse to an instructor if that instructor's semester load falls below fifteen (15) credit hours or below thirty (30) for the academic year (in this context only, the academic year shall mean the fall and spring course available that the instructor is qualified to teach). **(State Community College and AFT Local 3912)**
- **5.** Distance Learning: For the purposes of this contract, distance learning courses refer to the use of interactive television for educational programming delivered to several geographic locations that provides for immediate interaction between faculty and student.
 - 1. A faculty member teaching a course utilizing distance learning technology may select from the following options:
 - a. The course may be taught as part of regular load.
 - b. The course may be contracted as voluntary overload.
 - 2. Sessions will be taped for the purpose of student review or system failure. The tape will be available on a non-circulating basis for appropriate student uses for two weeks after the class session. At the discretion of the faculty member, the tape may then be destroyed or may be kept by the faculty member.
 - 3. The maximum class sizes for courses offered as distance learning shall be the same as those in the Master Course Table. The course maximum equals the total of all students enrolled at all sites. The procedure for accepting students over the maximum class size shall be the same as that provided in Section 4.19 of the contract.
 - 6. Expanded student access, not high enrollment concerns, shall drive distance learning course selection/scheduling. (*Elgin Community College Faculty Association/AFT.*)
- 6. H. Class sizes for audio-tutorial and telecourses shall be the same as for comparable traditional classroom courses, e.g., if a traditional SOC 101 class has a maximum of 38 students, the SOC 101 telecourse shall also have a maximum class size of 38 students. (South Suburban College Faculty Association/AFT.)
- **7.** O. Independent Study, TV Courses, Arranged Courses, Correspondence Courses, Independent Study Contracts, Experiential Learning.

O. 1 The College agrees to pay the instructor responsible for teaching these types of courses at a rate of \$92.05 per student for a five credit hour course up to a maximum of fifteen students (\$92.05 was arrived at by dividing the current part-time rate by fifteen.) If there are fifteen students, or more, in a class, compensation will be at the current part-time rate. The class size for these type of courses will be a maximum of twenty-five students. (**Pierce College Federation of Teachers**)

II. ACCESS TO TECHNOLOGY

University of San Francisco Faculty Association (AFT), San Diego Community College (AFT), Dutchess County Community College(NEA).

In a review of more than 100 contracts we have discovered these to be the only ones mentioning bargaining unit members' access to technology:

• Computer Center. This is a facility offering computer services without charge to Association members for use in connection with research and computer-related coursework. Recipients of grant funds for research involving computer usage are charged. Others may use the Computer Center's facilities by special arrangement. If Association members do not wish to do their own programming, they can obtain programming services through the Manager of User Services or from other sources; the Association member or department will be charged for this service. (University of San Francisco Faculty Association/AFT.)

The AFT Local at San Diego Community College has negotiated the provision of "necessary support services and equipment to faculty," which include a "computer with word processing and printing capabilities." The contract in place at Dutchess Community College in New York provides \$350 annually to each represented "educator" as a reimbursement for costs of "conferences, professional books, journals, subscriptions, and computer hardware/computer software of a job related nature."

III. INTELLECTUAL PROPERTY RIGHTS

Belleville Area College Employees Union (AFT), University Teachers Union, Montana (AFT) and University Education Association, Duluth (NEA).

The **Belleville Area College Employees Union/AFT** has negotiated a comprehensive definition of what is "copyrightable," with appropriate attention to technology. The category includes "motion picture and other audiovisual works" and "sound recordings." An inclusive definition of "intellectual property" covers "any intellectually created tangible thing or matter including . . . video and audio tapes and cassettes . . . computer programs. . . programmed instruction materials . . . "among other items. The contract section entitled "Presumption of Ownership" is a skillfully drafted clause much more favorable to the individual rights of the

bargaining unit member who creates the "property" than comparable coverage in the majority of higher education agreements. Many contracts are tilted in favor of the employer, granting the institution property rights unless specifically restricted. The Belleville clause has a different departure point.

- 1. Section 17.3 Presumption of Ownership. It shall be presumed that intellectual property created, made or originated by an employee covered by this Agreement shall be the sole and exclusive property of such employee for perpetuity or so long as the federal law allows, except as that employee may choose individually to contract away such property in full or in part, and further, except as an employer may expect an employe to create syllabi, assignments, and tests for students limited to classes taught in the employee's department or program, in which the case the college shall have the right to expect the employee to use such materials in his or her aforesaid classroom. The college is the presumed owner of intellectual property only when the college enters into an agreement with the employee to specifically create such specified intellectual property in exchange for compensation and this agreement specifically outlines the development obligations and the college's exclusive ownership. (Belleville Area College Employees Union).
- 2. The University Teachers Union/AFT contract with the University of Montana now includes "computer programs" in its list of copyrightable works that the University owns when "a faculty member is assigned work or responsibilities for the specific purpose" of creating such works. If not specifically assigned to develop a work (and it is not controlled by an agreement with an identified sponsor, such as the university), a faculty member will have "sole right or ownership."
- **3.** The **University Education Association/NEA contract with the University of Minnesota/Duluth** defines a broad range of "education materials" assigned to the employer's ownership and eventual disposition. Here are sections of the six-page clause.
 - 1500.110 Educational materials are Employer-sponsored:
 - (a) If the author or producer has employed in h/her developmental work, and without personal charge to h/her, the equipment, materials, or staff services of Employer's Radio and Television Department, Audio-Visual Education Service, Center for Programmed Learning, Bureau of Institutional Research, Center for Curriculum Studies, or any other new agency, or combination of old agencies, established or supported by the Employer to assist in developing and producing educational materials (this does not included limited consultation with the staff of such an agency); or (b) If the author or producer has been commissioned in writing by the Employer, or one of its colleges, schools, departments, or agencies to develop the materials and, in their production, has used some part of the time for which s/he received compensation from Employer-support budgets, grants and contract budgets administered by the Employer or budgets based on special legislative appropriations.

1500.200 Applicability

1500.210 General. The types of educational materials to which Section 1500.000 applies include, but are not limited to: (a) Video and audio recordings;(b) Live video or audio broadcasts;(c) Study guides, syllabi, bibliographies, and texts;(d) Computer programs; (e) Films, film strips, charts, transparencies, and other visual aids; (f) Programmed instructional materials; and (g) Computer assisted instruction courseware.

4. The **United Faculty of Florida agreement with the State University System of Florida** has detailed coverage of "instructional technology" and intellectual property.

Instructional Technology.

- (a) The parties recognize the increasing use of new technology, such as videotapes and computer software, to support teaching and learning and to enhance the fundamental relationship between employee and student. Furthermore, the parties also recognize that this technology should be used to the maximum mutual benefit of the university and the employee.
- (b) "Instructional technology material' includes video and audio recordings, motion pictures, film strips, photographic and other similar visual materials, live video and audio transmissions, computer programs, computer assisted instructional coursework, programmed instructional materials, three dimension materials and exhibits, and combinations of the above materials, which were prepared or produced in whole or in part by an employee, and which are used to assist or enhance instruction. (c) The University shall not assert any interest in instructional materials created by an employee without the use of appreciable university support, and used solely to assist or enhance the employee's instructional assignment.

If "appreciable university support" is provided to the bargaining unit member, a written agreement must be reached by the employee and the university. The State University System of Florida does not claim ownership of works that are the result of "independent efforts," defined as "ideas" originated by the employee, efforts "not made with the use of university support" and works for which the "university is not held responsible for any opinions expressed. . . ." Note that "appreciable" is not connected with "university support" in this section of the contract.

5. The contract negotiated by the **Black Hawk College Teachers Union/AFT** with the administration of Black Hawk College in Moline, Illinois, strikes a more equitable balance between the individual faculty member and the employer than many agreements, but includes a broad array of materials subject to copyright determination. The institution makes no claim of ownership where it provides "no support" and is not involved in the "creation of a product." It makes no ownership claim but "reserves limited rights of control of the copyright where the College provides only minimal support and involvement and no released time. . . ."

The college does claim ownership of works "created with substantial College involvement" and requires a "written agreement." The list of materials subject to copyright and thus ownership claims is extensive: "books, texts, articles, monographs, glossaries, bibliographies, study guides, laboratory manuals, syllabi, tests, etc.; lectures, musical or dramatic compositions, unpublished scripts, films, filmstrips, charts, transparencies, other visual aids; video and audio tapes and cassettes; live video and audio broadcasts; programmed instruction materials; computer programs; drawings, paintings, sculptures, photographs and other works of art; other materials." One would hope that unexpressed, thus privately held, ideas would not be classified under "other materials."

IV. THE COMMITTEE METHOD

The Community College of Allegheny County Federation of Teachers.

The contract article entitled "Instructional Technology" opens with a straightforward statement guaranteeing bargaining unit positions. "For the terms of this Agreement, no Employee shall be displaced because of Instructional Technology." The second statement begins the description of the committee process:

• B. Three (3) weeks after the beginning of each Fall term, the College President shall convene a collegewide committee to make recommendations for the adequate development and utilization of instructional technology, inservice training sessions required, and to make recommendations as to the application of such technology to the learning process.

The committee is composed of the President or "designee" and the "Federation President or designee." They are joined by the Executive Dean of each campus and "one Federation Vice President or designee from Allegheny, Boyce, South, and North Campus" for a total of ten members. Recommendations from the committee are sent to the College President with a copy to the Federation President. Within twenty-five days, the President either implements the recommendation, informing the committee's chair and the Federation in writing, or sends the recommendation to the Board of Trustees "for its action," also informing the chair and Federation in writing of any recommendations he might have made. The President also has the option of simply returning the recommendation to the collegewide committee with "written comments and recommended revisions." That option is available only once: "beyond that point, (the President) must either accept or reject the proposal made by the committee, or reject the recommendation and return it to the committee providing the chairperson and the Federation with reasons in writing." If the committee finds the President's rejection or "recommended revisions" unacceptable, it has the right to forward its recommendation to the Board of Trustees for "review." The Board's action is final, in other words, not grievable.

V. INFORMATION TECHNOLOGY AND THE WORK ENVIRONMENT

AFT College Staff Guild, Los Angeles.

The AFT College Staff Guild, representing over 1,000 classified or support staff in the Los Angeles Community College District, has negotiated a comprehensive, model contract article on technology and its members' working environment. The provision requires conformity with "State and Federal law and guidelines governing the use of video display terminals. . ." and establishes a Technological Environment Committee "to develop guidelines for the safe, healthful, and efficient use and operation of new technology and any effects on the Clerical/Technical Unit."

The section on "**Video Display Terminals**" occupies six pages; negotiators should review all of them. AFT members who would like to receive a copy of the entire contract article may contact the Higher Education Department. For information regarding contract administration, implementation, etc., they should contact Sandra Lepore, Executive Director of the College Staff Guild, at (213) 851-1521. In the interests of a more general audience, the following provisions are selected for emphasis:

- Compliance: The Los Angeles Community College District and the American Federation of Teachers College Staff Guild are committed to the use, purchase, and maintenance of micro-electronic technology and, specifically, video display terminals (VDTs), in a manner which is safe, which complies with all applicable laws, OSHA regulations, and guidelines, and which conforms to current "state of the art" ergonomic standards.
- Technological Environment Committee: A committee, composed of equal numbers of members appointed by the union and the district, shall meet to develop proposals for guidelines in addition to those contained in the Article for the purchase and use of new VDTs and associated equipment according to current ergonomic factors. Employees who are operators of such equipment shall participate in committee meetings. With the agreement of both parties, but no more frequently than once per fiscal year, this Article may be reopened to reconsider the incorporation of the committee's findings.
- The AFT and the committee shall have access to all requisitions and purchase orders for VDTs and associated equipment.
- Work Breaks: Every employee actively working at a VDT terminal shall be required to take a fifteen (15) minute work break every hour away from the terminal to accomplish other work. Such break shall be in addition to regularly scheduled rest breaks. Employees shall not be required to operate VDT equipment fifteen (15) minutes before the end of his/her shift.
- Section 4 of the article contains specific "ergonomic guidelines" with regard to lighting, glare, keyboard and screen: ("The minimum dot matrix composition for

screen characters shall be 5 X 7 pixels."); printer: ("excessive printer noise (defined as an average of 65 db or above measured over an eight hour shift) . . .shall be reduced by a combination of distance and/or noise reducing techniques. . . ."); chair and desk; and maintenance and monitoring. The contract assigns members of the bargaining unit who meet the definition of a "VDT operator" -- "an employee who works twenty (20) hours per work or more at a VDT terminal on tasks including, but not limited to, inputting data or programming computers" -- the right of "first priority" for upgraded equipment over other employees who are simply VDT "users."

- New operators must have their eyes examined within two months after beginning work within the classification and annually thereafter.
- Pregnant employees have the choice of being removed from VDT duties.
 7.a. At their request, pregnant employees shall be reassigned from duties involving VDTS, shall be moved from the vicinity of VDTs, or shall remain in their positions and shall be relieved of their VDT duties, for the term of the pregnancy. At the conclusion of the pregnancy, the employee shall have the right to return to the position from which she was last reassigned. The contract section on "New Technology and Job Security" requires that no layoffs or demotions shall occur "as a consequence of the introduction of microelectronic technology" nor will "new or changing technology" diminish the bargaining unit's work.

For additional information on contractual issues related to technology, contact:

Perry Robinson, Deputy Director AFT Higher Education Department 555 New Jersey Avenue, N.W. Washington, DC 20001 (202) 879-4426.

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COOK COUNTY COLLEGES TEACHERS UNION

APPENDIX B.3. COMPENSATION FOR TV COLLEGE, STUDIO TEACHING, AND SUPPORTING TV INSTRUCTION

A. Studio Teaching

Any faculty member selected to teach a course on television shall receive compensation as follows:

- 1. For preparation prior to studio presentation. The faculty member shall be assigned a full summer term at his prevailing salary rate for initial course preparation. In addition, a faculty member scheduled to present a course live during a fall semester shall be given three class contact hours of teaching credit during the preceding spring semester for course preparation.
- 2. For initial studio presentation. The faculty member presenting a three credit hour course telecast live shall be relieved of all teaching duties other than his studio duties and shall receive a full semester's compensation at his prevailing salary rate. In addition, he shall be given an overtime assignment of three (3) contact hours at the rate established for his salary lane and step for coordinating course activities. Instead of an overtime assignment, however, the teacher may elect a nine contact hour teaching program during the semester he returns to the College of his assignment, in accordance with the variable teaching load provisions in Article VIII.B.1. above. This assignment is awarded in recognition of the fact that open-circuit television teaching imposes conditions of employment beyond those imposed on the classroom teacher.

In the event a faculty member pre-records the initial studio presentation of a course for telecast in a subsequent academic semester or term, he shall be relieved of all regular teaching duties and shall receive a full semester's compensation at his prevailing salary rate during the semester or term in which the pre-recording takes place.

B. Re-telecast of Recorded Telecourses.

To protect the scholarly and professional standing of the TV teacher, TV College shall not reschedule a recorded telecourse, or release a recorded telecourse for outside use, without obtaining the faculty member's consent to said re-telecast or release of his course, nor without compensating him to review and edit the recorded series for the purpose of maintaining and improving instructional and production quality.

1. Initial review. A faculty member consenting to reuse of his recorded telecourse shall be given a full summer term assignment at his prevailing salary rate for initial review of his series. This review shall include whatever editing and taped remakes of specific lessons are deemed advisable by the faculty member and economically feasible by the Dean of TV College.

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- 2. Further review. Prior to any subsequent reuse by TV College, the faculty member shall be given one-half of a summer term assignment at his prevailing salary rate for further editing and review.
- 3. Release for outside use. Since it is now a practice for American colleges to exchange recorded instructional materials, the Dean of TV College may request a faculty member to permit release of his recorded telecourse to bona fide college-level institutions beyond the jurisdiction of the City Colleges of Chicago, such release to be effective for a period of not to exceed three (3) academic years. Further should any recorded telecourse find ten uses by outside institutions, within a three-year period, the faculty member involved will be given an additional one-half summer assignment for continued review and editing.

C. Compensation for Supporting TV Instruction.

Supporting instruction in TV courses may be supplied by the TV teacher himself, as well as by other faculty members. The television teacher shall, whenever a course is broadcast in videotape recording, be given three (3) contact hours of teaching credit for the purpose of coordinating course activities.

1. Compensation for other supporting instructional services, e.g., conducting scheduled on-campus class sessions, grading papers, etc., shall be given either to the TV teacher and/or other faculty members in accordance with the procedures customary in TV College. Faculty members who provide supporting instruction in courses having as an objective the imparting of skills, e.g., foreign language, speech, secretarial, and English composition or writing skills courses, shall be assigned groups of television students (1) whom they meet in scheduled on-campus class sessions, or (2) whose series of written assignments they grade and return. Each group will be divided into two classes and the size of each class shall be in conformity with evening class size standards as specified in Article VIII.A.1. with the following additional provisions:

Each such group of students, divided into classes and scheduled for oncampus sessions, will be scheduled for two sessions meeting consecutively on the same day, each for 100 minutes. However, not more than eight such meetings of each of the two classes in a group shall be scheduled during an academic term, for a total of not more than sixteen (16) one hundred-minute class sessions. When classes are scheduled for the maximum number of meetings, the faculty member shall receive one additional contact hour of credit. Speech classes will conform to the above except that each of the two classes making up a group of speech students shall not exceed twenty (20) students in number. A group shall be considered for compensation purposes and the faculty member's class TV load as equivalent to a three contact hour class. The size of laboratory science classes will be in conformity with standards for such classes as specified in Article VIII.A.1. above. For purposes of teacher compensation, eight four-hour laboratory sessions over a semester will be considered the equivalent of one on-campus laboratory class.

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- 2. Supporting instruction in TV courses not requiring student attendance at scheduled on-campus class sessions, or not requiring the submission by the students enrolled in such classes of written work at regular intervals to be graded and returned, shall be compensated for in accordance with the amount of direct supporting instruction involved by agreement between the TV College Dean or his delegate and the teacher concerned.
- 3. A faculty member associated with the TV teacher in the actual preparation and/or presentation of television lessons for live broadcasting, and who is also responsible for replacing the TV teacher should the latter be unable to appear at the studio and present the assigned lesson, shall be designated the "alternate" TV teacher and shall be awarded at least three (3) class contact hours teaching credit during each semester of his involvement. In the event the alternate TV teacher is called upon to replace the TV teacher in the course of the series for more than six (6) TV sessions, he shall be compensated at his prevailing salary rate, on the basis of one-thirtieth of his semester salary for each such lesson.

D. General.

Emeritus faculty members, former faculty members, and faculty members on sabbatical or other approved leave, whenever available for assignment to TV College for supporting instructional activities, shall be entitled to compensation for reuses of recorded telecourses in accordance with the policies stated above. Should any such faculty member consent to the reuse of his recorded telecourse but not be able or willing to accept an assignment to TV College for supporting instructional activities, another qualified faculty member shall be assigned such duties and shall be compensated in accordance with C. above. In such a case, the faculty member who originally made the recorded telecourse shall receive an honorarium of three hundred dollars.

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